



MCM10150

ISSUE A

Advance Information

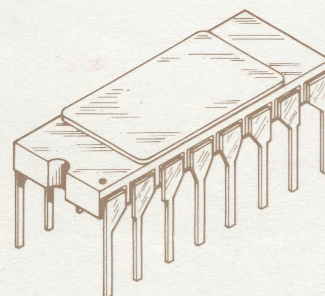
256 x 4 BIT PROGRAMMABLE READ ONLY MEMORY

The MCM10150AL is a monolithic 1024-bit programmable read only memory (ROM) that can be factory programmed for custom requirements. The basic organization of the memory is 256 four-bit words. This organization and the high speed of this MECL 10,000 device make the MCM10150AL particularly useful in fast micro programs, look up tables, decode functions, code conversion, number conversion, and random logic.

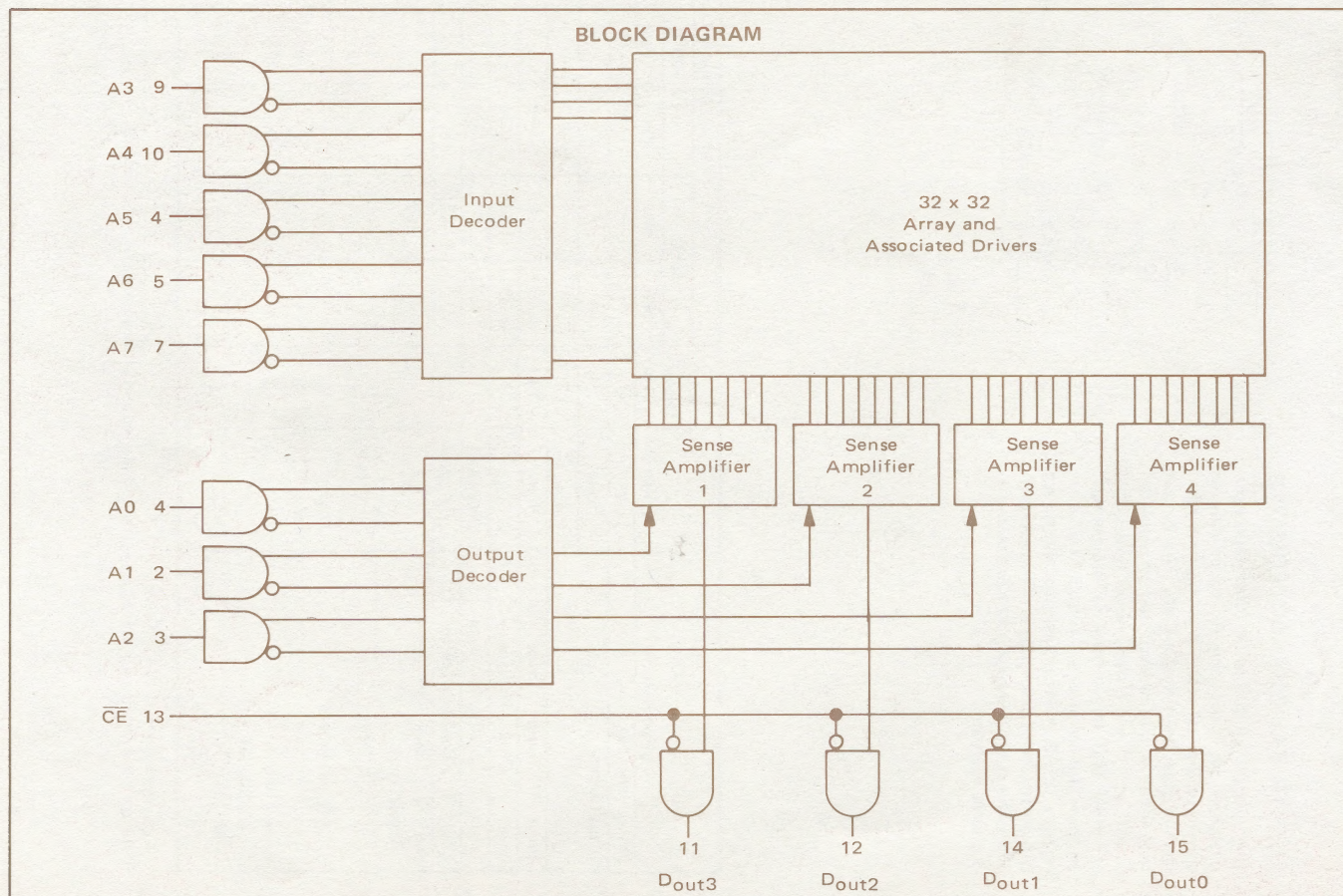
Metal interconnections establish each bit initially in the logic "1" state. By "blowing" appropriate nichrome resistors and thus breaking metallization links these bits can be changed to the logic "0" state to meet specific custom program requirements.

The MCM10150AL has eight address inputs to select the proper word and one chip enable input as well as outputs for each of the four bits. The MCM10150AL is specified over an operating temperature range of -30°C to $+85^{\circ}\text{C}$.

V_{CC1} = Pin 1
 V_{CC2} = Pin 16
 V_{EE} = Pin 8



MCM10150AL
 CERAMIC PACKAGE
 CASE 690



This is advance information and specifications are subject to change without notice.

ELECTRICAL CHARACTERISTICS

Each MECL 10,000 series circuit has been designed to meet the dc specifications shown in the test table, after thermal equilibrium has been established. The circuit is in a test socket or mounted on a printed circuit board and transverse air flow greater than 500 linear fpm is maintained. Outputs are terminated through a 50-ohm resistor to -2.0 volts. Test procedures are shown for only one input and one output. The other inputs and outputs are tested in the same manner.

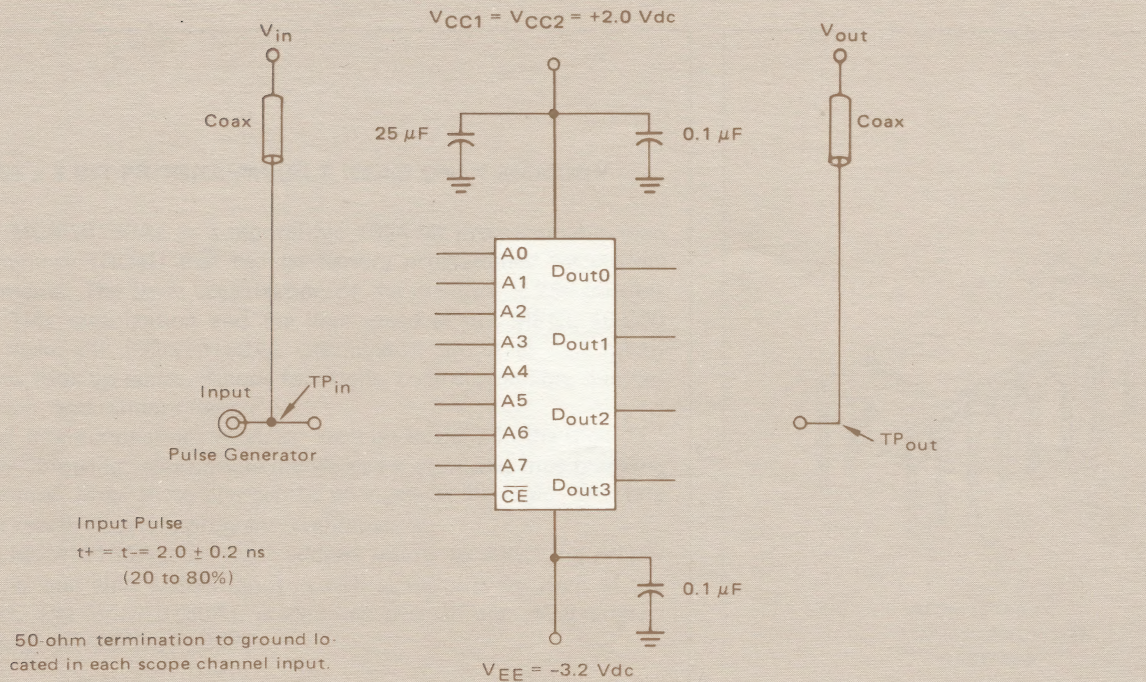
4	A0	15
2	A1	Dout0
3	A2	
9	A3	14
10	A4	Dout1
6	A5	
5	A6	12
7	A7	Dout2
13	CE	11
	Dout3	

MCM10150AL Test Limits										TEST VOLTAGE VALUES (Volts)					V _{CC} Gnd					
										+25°C						+85°C				
										-30°C		+25°C				+85°C				
										Pin Under Test	Symbol	Min	Max	Typ		Unit	V _{IH} max	V _{IH} min	V _{IL} max	V _{IL} min
Characteristic																				
Power Supply Drain Current	I _{EE}	8	—	110	150	—	mAdc	—	—	—	8	1,16								
Input Current	I _{inH}	2	—	—	265	—	μAdc	2	—	—	8	1,16								
	I _{inL}	2	—	—	0.5	—	μAdc	—	2	—	8	1,16								
Logic "1" Output Voltage	V _{OH} *	15	-1.060	—	-0.810	-0.890	Vdc	—	*	—	8	1,16								
Logic "0" Output Voltage	V _{OL}	15	-1.890	—	-1.650	-1.615	Vdc	13	—	—	8	1,16								
Logic "1" Threshold Voltage	V _{OHA} *	15	-0.080	—	—	-0.910	Vdc	—	*	—	8	1,16								
Logic "0" Threshold Voltage	V _{OLA}	15	—	-1.655	-1.630	—	Vdc	—	—	13	8	1,16								
Switching Times (50 Ω Load)										Pulse In	Pulse Out	-3.2 V								
Access Time																				
Chip Enable	t _{CE} -Dout ⁺	15	—	—	7.0	—	ns	—	—	13	15	8								
Address Inputs**	t _{CE} +Dout ⁻		—	—	7.0	—		—	—	13										
	t _A +Dout ⁺		—	—	20	—		—	—	7										
	t _A -Dout ⁺		—	—	20	—		—	—	7										
	t ₁₅ +		—	—	4.0	—		—	—	7										
Rise Time (20% to 80%)																				
Fall Time (20% to 80%)	t ₁₅ -		—	—	4.0	—		—	—	7										

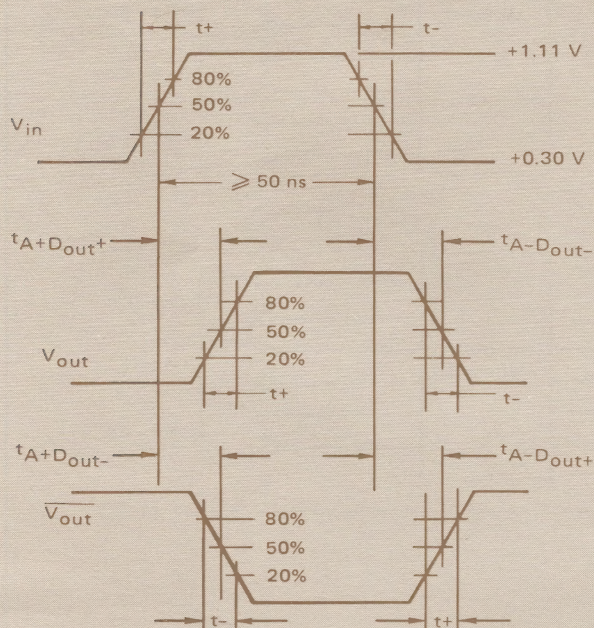
*V_{OH} measurement pattern dependent.

**AC tests shown for only one address line and one output (times are pattern dependent).

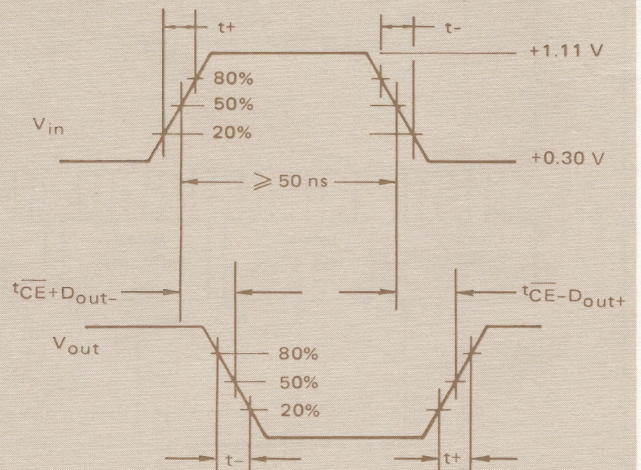
SWITCHING TIME TEST CIRCUIT AND WAVEFORMS @ 25°C



ADDRESS PROPAGATION DELAY



CHIP ENABLE PROPAGATION DELAY



NOTE: Address must be set up as to produce a high state on the output being examined.



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